



SRS Citizens Advisory Board

Waste Management/Nuclear Materials Joint Committee

Meeting Summary

May 2, 2001
North Augusta Community Center
North Augusta, SC

The Waste Management and Nuclear Materials Committees held a joint meeting on Wednesday, May 2, 2001, 6:00 p.m., at the North Augusta Community Center, North Augusta, SC. Attendance was as follows:

CAB Members

Ken goad
Jean Sulc
Vera Jordan
Wade Waters
Karen Patterson

Stakeholders

Lee Poe
Mike French
Bill McDonell
Chuck Keilers, DNFSB

DOE/Contractors

Sachiko McAlhany, DOE
Bill Brasel, DOE
Guy Girad, DOE
Bill Taylor, DOE
Sonny Goldston, WSRC
Elmer Wilhite, WSRC
Harold Conner, WSRC
Susan Cathey, WSRC
Kim Hauer, WSRC
Michael Chandler, WSRC
Sam Speight, WSRC
Kelly Dean, WSRC
Donna Martin, WSRC
Ron Reeves, WSRC
Ron Campbell, WSRC
Gary Davis, WSRC
Tony Giordani, BSRI
Ranga Palaniswamy, BSRI
Brett Cederdahl, BSRI
George Mishra, DOE

Ken Goad, CAB Nuclear Materials (NM) Committee chair, opened the meeting at 6:00 p.m. by inviting introductions and thanking everyone for coming.

Americium/Curium Program (Am/Cm)

Sachiko McAlhany, Program Manager, DOE Materials and Facility Stabilization Division, presented the status and alternative disposition study of the Am/Cm project to the committees. The project was authorized in September 1995 to stabilize the F Canyon Tank 17.1 Americium/Curium solution. The Interim Management of Nuclear Materials Environmental Impact Statement (EIS) Record of Decision (ROD) of 1990 concluded that the material would be stabilized into a glass matrix (vitrification) in the F-Canyon multi purpose processing facility (MPPF). SRS and Oak Ridge National Labs (ORNL) jointly studied methods to transport and store the vitrified product to ORNL for future use.

Ms. McAlhany went on to explain the Americium/Curium pretreatment/vitrification process and the interim storage method. Ms. McAlhany outlined the major activities involved in this project. The dismantlement and removal (D&R) activities for the MPPF facility are near completion, and the pretreatment design is nearing completion. The vitrification process is in the design phase, and the majority of the production equipment work is now being performed at SRS. With regard to the facility services that are part of the vitrification process, the necessary process support services are available and the detailed design is scheduled for an 11/01 completion date.

The project was re-baselined in April 01. There was a \$68M cost increase due to an additional cost for in-cell equipment and upgrades of the existing canyon systems. Mr. Poe asked the current project baseline, which is \$129M, which takes the total estimated cost to \$197M. WSRC plans to adhere to the original schedule to complete vitrification by December '05.

Since the need for the Am/Cm material has changed, and this material has been declared an excess security need, the new scope is to stabilize and dispose of the material. Part of the disposition requirement is ensuring the material is acceptable for the repository. Ms. McAlhany pointed out that adding the disposition increased the scope and the cost, which has lead SRS to look at alternatives to vitrifying the material and shipping it for reuse. This new cost and the transportation requirements costs are not included in the baseline.

Mr. Holcombe believed that this material was considered a national treasure at one time and asked if any site has an interest in using it in some way. He also asked if major labs, such as Berkeley or Lawrence Livermore had input into this process. Ms. McAlhany answered that DOE attempted to identify a need and/or a user for this material by canvassing all organizations and programs within the department. There was no interest and no user willing to identify a use or to provide monetary assistance with such items as transportation costs. There are other sources and people interested in other target material at SRS. Mr. French inquired if SRS has an idea of how much the acceptance and transportation costs might be. Ms. McAlhany answered that this level of work detail was never scoped. WSRC has only provided a Rough Order of Magnitude (ROM).

Mr. Poe asked what DOE has done to evaluate the reproduction of Am/Cm and the percentage SRS has of this material. Ms. McAlhany pointed out that SRS is not looking to reproduce the material and that thus far the requests have been only for gram quantities of the material. Mr. Poe pointed out that SRS could not produce this material in a power reactor or any reactor SRS has. He disagrees with SRS asking for funding from other sources. Ms. McAlhany stated that EM has always planned to fund and stabilize the material. There was a question of funds for the transportation issues and follow on activities. When Mr. Waters asked the DOE classification of this material, Ms. McAlhany stated that DOE declared this material an excess security need.

Ms. McAlhany went on to explain the various options. The primary disposition option would be a direct transfer to the extended sludge processing (ESP) Defense Waste Processing Facility (DWPF) feed tank. In order to do this, SRS would have to neutralize and dilute in F Canyon, within existing safety limits, and then transfer diluted/neutralized material from F Canyon through the inter-area transfer line to ESP. Mr. Poe questioned safety and the ventilation capacity of this high alpha material. He asked where the pump tanks vent and how this material would be handled and

confined. Ms. McAlhany stated that further analysis is planned to resolve some of these issues. She answered that WSRC's comments and reports haven't been fully analyzed yet.

Action: Examine the ventilation and venting of this material.

Mr. McDonnell asked if the increase in cost was all that had changed. Ms. McAlhany answered that there are other considerations, such as DOE must ensure that there is a repository. Also, timing is another driver. DOE hopes to develop a method in a timely manner.

Ms. McAlhany continued. This transfer of Am/Cm would take place into sludge batch 3. In this option the Am/Cm would be vitrified through DWPF between FY04 and FY07 timeframe. This option would require some modification to F canyon and High Level Waste.

The group discussed the end states of the glass, the alpha content of the material, and the impact on the tank farms. Mr. Chandler answered that the alpha would be much higher in MPPF. Ms. McAlhany pointed out that the addition of about 175,000 curies of radioactivity would not impact tank farm operations. Also, currently one tank already holds Am/Cm with a similar radioactive level.

Mr. Poe asked if the glass sent through MPPF would be stable and safe. Ms. McAlhany answered that it would be a sodium-aluminum-borisilicate glass that has met the durability requirements.

Mr. French explained his concern with the cost. There is a four-fold increase in cost and a seven-year delay in proposed project completion, bringing about the appearance that this project is running away with costs. Ms. McAlhany emphasized that this project has gone through extensive program management improvement processes. Numerous difficulties have been incurred, and developmental costs have risen. DOE continues to look at the requirements and the modifications to plants, the canyons, and the tank farm. No decision has been made, and DOE is looking to stakeholders to give input. Ms. McAlhany agreed that it is very important for DOE and WSRC to stay abreast of the management of costs and schedule for this project.

When Mr. French asked if the vitrification project would be put on hold while a decision is being made of which route to follow, Ms. McAlhany answered no, not at this time. SRS has a committed date to the Defense Nuclear Facilities Safety Board (DNFSB).

When Ms. Patterson asked about the costs of running this material through DWPF and the criteria used to choose an alternative, Ms. McAlhany answered that SRS is looking at cost, scheduling and risks, and Authorization Basis (AB) documents for the alternatives.

WSRC developed a plan to keep this project moving forward and presented it to DOE on May 1. WSRC believes the material can be safely transferred to the tank farms and managed in the HLW system before being converted to glass at DWPF for disposal.

WSRC also believes that putting the additional material into the tank farms should not negatively affect tank space. It is a small enough quantity that it can be absorbed into the system and processed with other materials without danger to employees, the public, or the environment. In addition, the tank farms are well within their safety basis limits to receive this material.

DOE is currently considering an alternative option and path forward for Am/Cm disposition.

Mr. Poe would like to see the WM Committee make a broad recommendation to include the following: The WM Committee favors stabilization of the Am/Cm material in a useable form with long term storage in the canyons. It is important to reduce the risk and not to discard the material.

Mr. Goad concurred; SRS should process the material into a safe form and keep it in the canyon until final disposition.

Mr. Waters answered that the Committee would continue to study this process and make a recommendation decision. He then invited the NM Committee to the CIF focus group meeting on Monday, May 7.

Mr. Goad and Mr. Waters asked for any further comment. There being none, the chairs adjourned the meeting at 8:15 p.m.

Meeting handouts may be obtained by calling 1-800-249-8155.